## Claims

1. A catalyst composition comprising at least one non-noble Group VIII metal component, at least two Group VIB metal components, and at least about 1 wt.% of a combustible binder material selected from combustible binders and precursors thereof, the Group VIII and Group VIB metal components making up at least about 50 wt.% of the catalyst composition, calculated as oxides.

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The catalyst composition of claim 1 wherein the Group VIII and Group VIB metal components make up at least about 70 wt.% of the catalyst composition, calculated as oxides.

The catalyst composition of claim 2 wherein the Group VIII and Group VIB metal components make up at least about 90 wt.% of the catalyst composition, calculated as oxides.

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4. The catalyst composition of claim 1 which consists essentially of at least one non-noble Group VIII metal component, at least two Group VIB metal components, and at least about 1 wt.% of a combustible binder material.

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5. The catalyst composition of claim 1 wherein the Group VIII non-noble metal component comprises cobalt, nickel, iron, or mixtures thereof.

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6. The catalyst composition of claim 1 wherein nickel and cobalt make up at least about 50 wt.% of the total of Group VIII non-noble metal components calculated as oxides.

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7. The catalyst composition of claim 6 wherein nickel and cobalt make up at least about 70 wt.% of the total of Group VIII non-noble metal components calculated as oxides.

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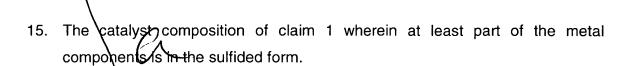
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- 8. The catalyst composition of claim 6 wherein nickel and cobalt make up at least about 90 wt.% of the total of Group VIII non-noble metal components calculated as oxides.
- 5 9. The catalyst composition of claim 1 wherein the Group VIB metal component comprises at least two of molybdenum, tungsten, and chromium.
  - 10. The catalyst composition of claim 9 wherein molybdenum and tungsten make up at least about 50 wt.% of the total of Group VIB metal components, calculated as oxides.
  - 11. The catalyst composition of claim 10 wherein molybdenum and tungsten make up at least about 70 wt.% of the total of Group VIB metal components, calculated as oxides.
  - 12. The catalyst composition of claim 10 wherein molybdenum and tungsten make up at least 90 wt.% of the total of Group VIB metal components, calculated as oxides.
- 20 13. The catalyst composition of claim 1 wherein the combustible binder material is a combustible binder or a combustible binder precursor which, for the combustible binder precursor optionally after pyrolysis, comprises carbon as its major component.
- 14. The catalyst composition of claim 13 wherein the combustible binder material is or is derived from a combustible binder precursor which comprises an organic polymer selected from the group of polyacrylonitriles, bakelite, polyamides, polyurethanes, cellulose and derivatives thereof, hemicellulosic materials, polyfurfuryl alcohol, styrene-divirylbenzene copolymers, phenol resins, furan resins, polyimide resins, polyphenylene resins, phenolic foams, and polyurethane foams.



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- 5 16. A process for preparing a catalyst composition according to claim 1 which process comprises contacting at least one Group VIII non-noble metal component with at least two Group VIB metal components in the presence of a protic liquid, wherein a combustible binder material selected from a combustible binder or a precursor thereof is added prior to, during and/or subsequent to the contacting of the metal components.
  - 17. The process of claim 16 wherein contacting of the metal components comprises combining and reacting the metal components in solution to form a precipitate.
  - 18. The process of claim 16 wherein contacting of the metal components comprises combining and reacting the metal components in the presence of a protic liquid, with at least one of the metal components remaining at least partly in the solid state during the entire process.
  - 19. The process of claim 16 wherein the combustible binder material comprises a precursor of a combustible binder and the precursor is converted into a combustible binder after addition.
- 25 20. The process of claim 19 wherein the precursor of the combustible binder is converted into the combustible binder by pyrolysis in an inert atmosphere at a temperature in the range of about 300°-600°C.
  - 6. The process of claim 1 which includes a sulfidation step.

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A process for the hydroprocessing of hydrocarbon feedstocks wherein the catalyst composition of claim 1 is contacted with said hydrocarbon feedstocks at hydroprocessing reaction conditions.

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A process for the recycling of a used or waste catalyst composition comprising a Group VIII non-noble metal, a Group VIB metal, and a combustible binder, wherein the catalyst comprises at least about 1 wt% of carbon as part of the combustible binder, based on the total weight of the catalyst composition, which process comprises thermally treating the used or waste catalyst composition in an oxygen-containing atmosphere at a temperature of at least about 300°C.

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The process of claim 18 wherein the used or waste catalyst comprises at least one Group VIII non-noble metal component and at least two Group VIB metal components, the Group VIII and Group VIB metal components making up at least about 50 wt.% of the catalyst composition, calculated as oxides.

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